Claims

1.   A system development support device, comprising:

a division means for dividing a program, in which a logic specification

5   of a system is described in a single high-level language, into a hardware

portion and a software portion based on division information which designates

each portion of the program as either the hardware portion or the software

portion;

a storage means for storing a program of the hardware portion and a

10   program of the software portion which are divided by said division means;

a first conversion means for converting the program of the hardware

portion stored in said storage means into a circuit specification; and

a second conversion means for converting the program of the software

portion stored in said storage means into an execute form module.

15   2.   A system development support device, comprising:

a division means for dividing a program, in which a logic specification

of a system is described in a single high-level language, into a hardware

portion and a software portion based on division information which designates

each portion of the program as either the hardware portion or the software

20   portion;

a storage means for storing a program of the hardware portion and a

program of the software portion which are divided by said division means;

a first conversion means for converting the program of the hardware

portion stored in said storage means into a circuit specification; and

25   a second conversion means for converting the program of the software

portion stored in said storage means into an execute form module,

said division means determining, in each function block of the program described in the single high-level language, whether the function block is a portion to be mounted as hardware or a portion to be mounted as software based on the division information.

3. The system development support device according to claim 1, further comprising:

a division information generating means for generating the division information based on a specification of the system.

4. The system development support device according to claim 1, further comprising:

a division information generating means for generating the division information based on capacity of a memory in which the execute form module is stored in the system and number of gates of a gate array in which a circuit based on the circuit specification is performed in the system or based on at least one of a type of a CPU core used in the system, a function of a DSP used in the system, available hardware macros, and available software macros as well as the capacity of the memory and the number of the gates.

5. The system development support device according to claim 1, further comprising:

a verification means for verifying a circuit based on the circuit specification resulting from the conversion by said first conversion means and an operation of the execute form module resulting from the conversion by said second conversion means.

6. The system development support device according to claim 5, further comprising:

a division information changing means for changing the division

information in accordance with a result of verification by said verification means.

7.   The system development support device according to claim 5, further comprising:

a division information changing means for changing a ratio of the hardware portion to the software portion in accordance with a result of verification by said verification means.

8.   The system development support device according to claim 5, further comprising:

a first condition changing means for changing a hardware condition which said first conversion means refers to when converting the hardware portion into the circuit specification in accordance with a result of verification by said verification means.

9.   The system development support device according to claim 5, further comprising:

a first condition changing means for changing a hardware condition which said first conversion means refers to when converting the hardware portion into the circuit specification in accordance with a result of verification by said verification means,

said first condition changing means changing input/output timing of signals between the hardware portion and the software portion in accordance with the result of the verification by said verification means.

10.   The system development support device according to claim 5, further comprising:

a second condition changing means for changing a compile condition on which said second conversion means converts the program of the software

portion into the execute form module in accordance with a result of verification by said verification means.

11.   The system development support device according to claim 5, further comprising:

a second condition changing means for changing a compile condition when said second conversion means converts the program of the software portion into the execute form module in accordance with a result of verification by said verification means,

said second condition changing means changing a type of a CPU core used in the system in accordance with the result of the verification by said verification means.

12.   The system development support device according to claim 5, further comprising:

an optimization means for repeatedly operating said division means, said first conversion means, said second conversion means and said verification means while changing at least one of the division information, hardware conditions on which said first conversion means converts the program of the hardware portion into the circuit specification, compile conditions on which said second conversion means converts the program of the software portion into the execute form module, until a predetermined verification result is obtained or only a predetermined number of repetitions.

13.   A system development support method, comprising the steps of:

dividing a program, in which a logic specification of a system is described in a single high-level language, into a hardware portion and a software portion based on division information which designates each portion of the program as either the hardware portion or the software portion;

converting a program of the hardware portion into a circuit specification; and

converting a program of the software portion into an execute form module.

5　14.　A computer readable record medium on which recorded is a system development support program to allow a computer to function as:

a division means for dividing a program, in which a logic specification of a system is described in a single high-level language, into a hardware portion and a software portion based on division information which designates

10　each portion of the program as either the hardware portion or the software portion and storing a program of the hardware portion and a program of the software portion in a storage means;

a first conversion means for converting the program of the hardware portion stored in the storage means into a circuit specification; and

15　a second conversion means for converting the program of the software portion stored in the storage means into an execute form module.

15.　A computer readable record medium,

wherein a division program to allow a computer to function as a division means for dividing a program, in which a logic specification of a

20　system is described in a single high-level language, into a hardware portion and a software portion based on division information which designates each portion of the program as either the hardware portion or the software portion and storing a program of the hardware portion and a program of the software portion in a storage means is recorded.

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